



**General Medicine:**  
**HYPOGLYCEMIA / HYPERGLYCEMIA**  
**Medical Protocol**

**Patient Care Goals**

Limit morbidity from hypoglycemia and hyperglycemia by:

1. Describing appropriate use of glucose monitoring
2. Treating symptomatic hypoglycemia
3. Appropriate hydration for hyperglycemia

**Patient Presentation:**

Inclusion Criteria

1. Adult or pediatric patient with blood glucose < 60 mg/dL with symptoms of hypoglycemia; infants < 40 mg/dL with symptoms of hypoglycemia
2. Adult or pediatric patient with altered level of consciousness
3. Adult or pediatric patient with stroke symptoms
4. Adult or pediatric patient with seizure
5. Adult or pediatric patient with symptoms of **DKA\*** (dehydration, polyuria, polydipsia, nausea/vomiting, abdominal pain, weakness, dyspnea, dizziness, confusion, fruity-scented breath)
6. Adult or pediatric patient with history of diabetes and other medical symptoms
7. Patients with suspected alcohol ingestion

**Medications:**

Oral Glucose:

Adult Dosing: 15 gm q 5 mins x 3 PRN if symptomatic  
Pediatric Dosing: 1 gm/kg (max of 15 gm/dose) q 5 mins x 3 PRN if symptomatic

Dextrose IV

Adult Dosing: 100 mL 10% dextrose IV  
Pediatric Dosing: 4 mL/kg of 10% dextrose IV (max 100 mL)  
Dextrose may be repeated if patient remains symptomatically hypoglycemic PRN

Glucagon IM/IN

Adult and Pediatric Dosing: 1 mg IM/IN  
Pediatric Dosing <20 kg: 0.5 mg IM/IN

Normal Saline Bolus

Glucose > 400 mg/dL with symptoms of DKA.  
Repeat PRN until symptom improvement, 3 boluses, or signs of heart failure/shortness of breath.

**Quality Improvement:**

Key Documentation Elements

1. Glucose measurements
2. Response to interventions
3. Hypoglycemia refusal for transport elements documented

**Patient Safety Considerations**

Patient refusals are high risk situations; use checklist.  
Routine use of lights and sirens is not recommended during transport unless severe or refractory to EMS interventions.

Paramedic Working Assessment: Hypo/Hyperglycemia

Universal Care

Inclusion Criteria  
Paramedic Judgement

No

Consider other causes  
Refer to appropriate protocol

yes

Obtain blood glucose

Blood glucose < 60 mg/dL  
(< 40 mg/dL for infants)

Blood glucose >400 mg/dL  
with symptoms of DKA\*

Oral Glucose if able to swallow/  
intact gag reflex

Not immediately improving

Dextrose IV Preferred  
Or  
Glucagon IM/IN

NS Bolus 20 mL/kg  
max 1 liter single bolus.  
Repeat PRN

Disposition

**Hypoglycemia Refusal Checklist:**

If hypoglycemia with resolved symptoms, consider patient generated refusal of transport if all of the following are true:

- ✓ Repeat glucose is > 80 mg/dL
- ✓ Patient does NOT use oral medications to control blood glucose
- ✓ Patient returns to normal mental status, with no focal neurologic signs symptoms after receiving glucose/dextrose
- ✓ Patient can promptly eat a carbohydrate meal in front of EMS
- ✓ A reliable adult will be staying with patient
- ✓ No major co-morbid symptoms exist, like chest pain, shortness of breath, seizures, intoxication, or naloxone administered
- ✓ Patient or legal guardian refuses transport and all parties demonstrate capacity for decision-making